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## BACKGROUND

- Cancer accounts for 30% of death in Singapore.
- Palliative care (PC) is recommended for advanced cancer patients in the early course of the illness to improve quality of life.
- However, literature shows a lack of awareness and negative perceptions of PC, which are associated with late / low use of PC services.

## OBJECTIVES AND HYPOTHESES

### To investigate:

- Awareness of PC services among advanced cancer patients and their family caregivers in Singapore, and the relationship between patient PC awareness and patient characteristics.
- Whether negative perceptions could be barriers to PC use in Singapore.

### Hypotheses:

- Patients are less likely than caregivers to be aware of PC services, and physicians are more likely to discuss PC with caregivers than patients.
- Patient education and income are significant predictors of PC awareness.
- Lack of awareness aside, negative perceptions of patients/caregivers about PC are barriers to PC utilization.

## METHODS

- **Setting:** Outpatient clinics at medical oncology departments of 2 major public hospitals in Singapore.
- **Design:** Baseline survey from the *Cost of Medical Care of Patients with Advanced Serious Illness in Singapore (COMPASS)* study.
- **Sample:** 600 patients with stage 4 solid cancer and 290 caregivers.
- Respondents were asked:
  - If they were aware of PC services;
  - How they first learned about PC services;
  - If a healthcare provider (HP) recommended PC;
  - If the patient has received PC; and
  - Reasons for not receiving PC.

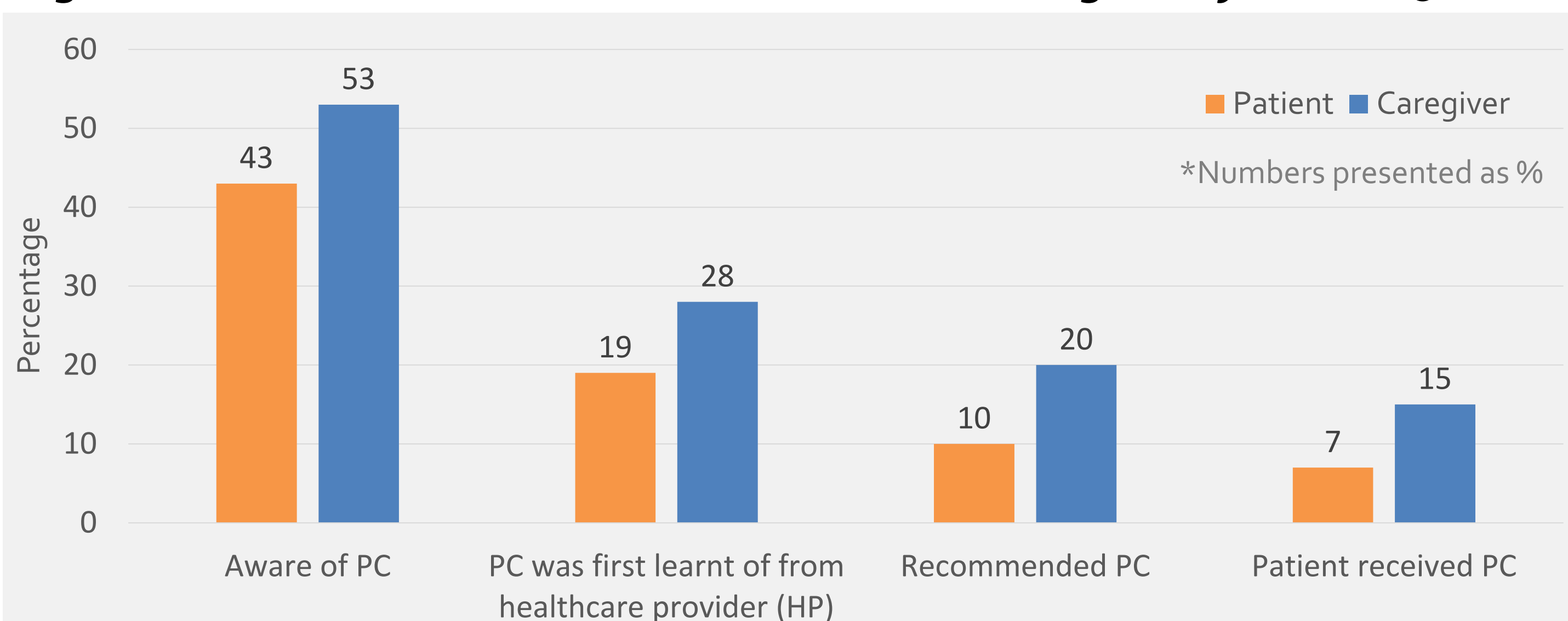
## RESULTS

**Table 1. Patient (N=600) and Caregiver (N=290) Characteristics**

	Patients	Caregivers
Age, mean (SD)	61 (11)	51 (14)
Female	54%	65%
Above secondary education	31%	56%
Chinese	79%	76%
Married	73%	78%
Employed	36%	60%
Household income, median	\$3,500	\$3,500
Buddhist	35%	30%
Spouse of patient	NA	47%

- Mean age for the patient and caregiver samples was 61 and 51 years, respectively. Median monthly household income was \$3,500. (Table 1)
- Majority of participants were female, Chinese and married. Most prevalent religion was Buddhism.
- Most patients had below secondary education and were not working.
- Most caregivers had above secondary education and were full- or part-time employed. Almost half the caregivers were spouses of patients.

**Figure 1. PC Awareness and Utilization in Patient-Caregiver Dyads (N=290)**



Amongst dyads (Figure 1, N=290), consistent with our hypotheses;

- PC awareness was lower among patients (43% vs 53%) (P value < 0.01).
- Caregivers (51% vs 40%) were more likely to first learn about PC from a HP (P value < 0.01).
- In those aware of PC (N=81), more caregivers (20% vs 10%) reported that a HP recommended PC to the patient (P value = 0.012).
- 15% of caregivers reported that patient has received PC while only 7% of patients stated that they did (P value = 0.031).

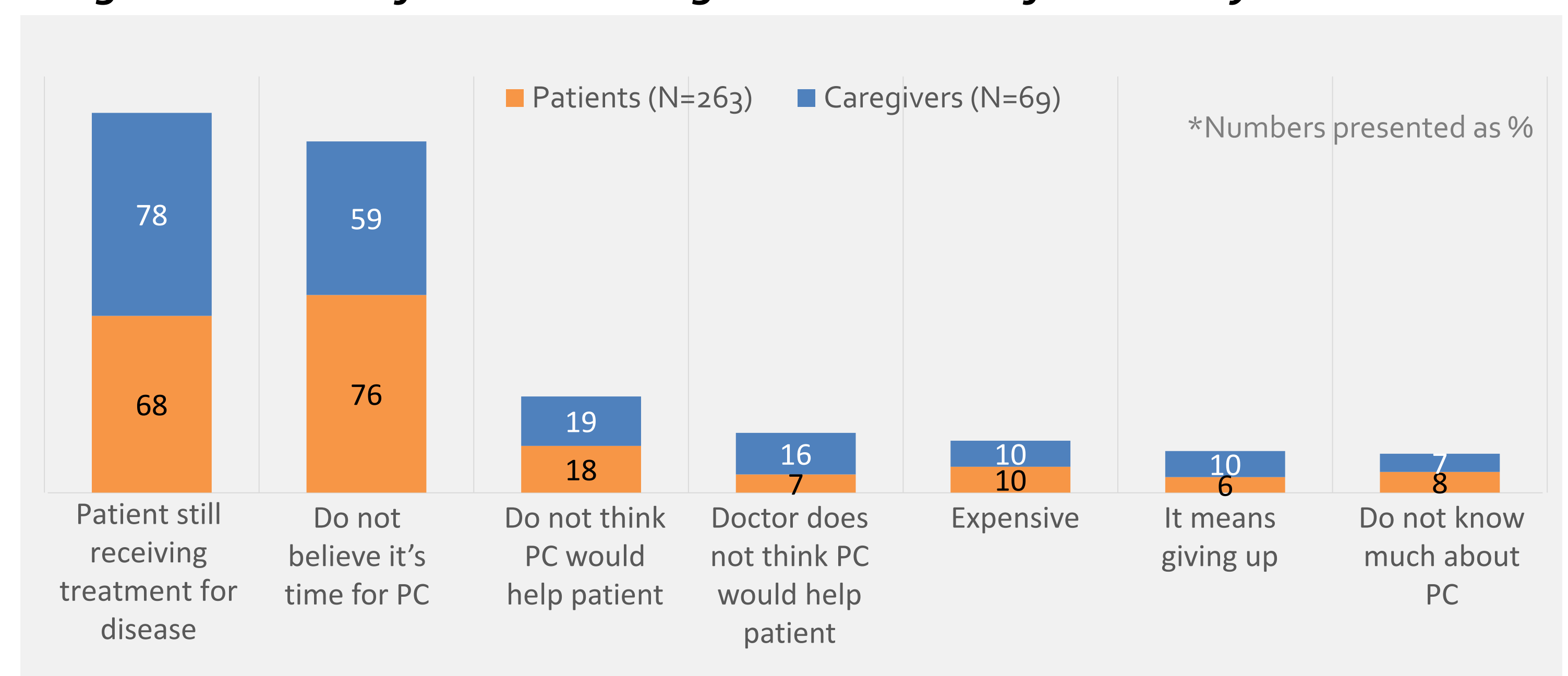
**Table 2. Predictors for Patient PC Awareness (N= 523)\***

	Odds Ratio (St Error)	P Value
Higher education (higher than secondary education)	2.927 (0.652)	0.000
Male	0.833 (0.164)	0.354
Age	1.005 (0.010)	0.585
Chinese ethnicity	0.729 (0.168)	0.172
Married	0.739 (0.161)	0.165
Higher income (higher than median)	1.798 (0.372)	0.005
Comorbidities (other than cancer)	1.017 (0.230)	0.942
Constant	0.656 (0.406)	0.496

\*From 600 patients in total, 72 patients who reported not knowing their household income, and 5 patients who did not answer the question were excluded from the analysis.

- As hypothesized, odds of PC awareness among patients was higher if they had higher education and income (Table 2). This is similar to the findings from previous studies.

**Figure 2. Reasons for not Receiving PC at the Time of the Survey**



- "Patient still receiving treatment" was most common reason for patient not receiving PC (Figure 2).
  - Participants perceive that treatment has to stop to receive PC.
- About 20% of participants reported that PC would not be of help.
  - Similar findings were found in a survey with general public by Lien Foundation.

## DISCUSSION / CONCLUSIONS

- Findings indicate HPs may feel more comfortable discussing PC with caregivers than patients. However, patients may have different treatment preferences and should be informed of available care options.
- Negative perceptions of PC among patients and caregivers suggest demand-side barriers for PC use in Singapore.
- Further research should be conducted to understand why these populations think PC would not be helpful.
- Efforts should be made to increase awareness about PC and to promote its acceptance among cancer patients and their caregivers in Singapore, focusing on those of lower education and income.
- Awareness campaigns should explain:
  - How PC services can help throughout advanced cancer, not just at end of life;
  - That PC can be received together with standard care.

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